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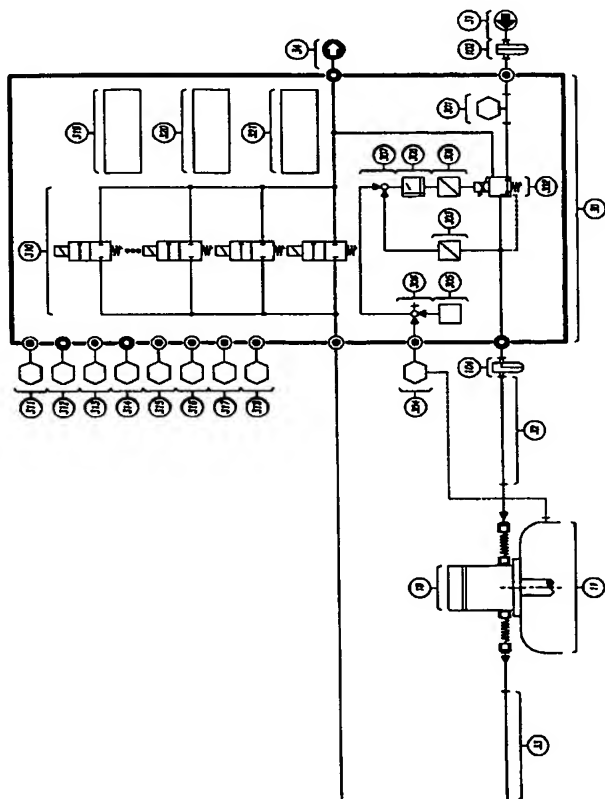
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[Continued on next page]

(54) Title: MULTIFUNCTIONAL ELECTRONIC DEVICE FOR A MECHANICAL SEAL AND CONTROL AND MANAGEMENT PROCESS REALISED BY SUCH DEVICE



(57) Abstract: Multifunctional electronic device (30) based on a microprocessor for checking and managing all operating and diagnostic conditions of a mechanical seal (10, 20). A mechanical seal, installed on pumps or process machines (11, 21), comprises two coupled surfaces, one rotating and integral with a shaft and one stationary and integral with the machine in which the shaft is inserted; these two surfaces are kept in contact through combined forces: a mechanical force generated by springs and another hydraulic force generated by the pressure of a fluid and suitably controlled by a pressure regulator (103, 202, 302). The electronic device regulates the pressurization of a mechanical seal to variable pressure values, keeping the optimum difference (305) constant between pressure (303) inside the mechanical seal and pressure (304) in the pump delivery line or inside the process machine in which the seal is installed.

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# INTERNATIONAL SEARCH REPORT

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PCT/IT 03/00154

**A. CLASSIFICATION OF SUBJECT MATTER**  
IPC 7 F16J15/34 G01M13/00

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

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Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the International search (name of data base and, where practical, search terms used)

EPO-Internal

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

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A	WO 01 40756 A (PECHT GLENN G ;CRANE JOHN INC (US); WILLIAMSON GUY GARDNER (US)) 7 June 2001 (2001-06-07)  page 5, line 1 -page 6, line 23 page 11, line 21 -page 14, line 24; claims 21-32  ----	1-5,11, 14,16, 17, 21-24, 27-32
A	US 4 792 911 A (SNUTTJER OWEN R ET AL) 20 December 1988 (1988-12-20)  the whole document  -----  -/--	1-7,10, 11,13, 16,17, 21-33, 35,36

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

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## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

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A	US 6 116 609 A (AZIBERT HENRI V) 12 September 2000 (2000-09-12) column 3, line 2 - line 26 column 13, line 25 - line 67	1

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